

CLAIMS

1. An information recording medium comprising:

a first recording layer to record therein first information which is at
5 least one portion of record information; and

one or a plurality of second recording layers, which are disposed on
said first recording layer, to record therein second information which is at
least another portion of the record information, wherein

each of said second recording layers has a predetermined area in
10 which power calibration is performed to detect an optimum recording power
of laser light for recording, which is transmitted through said first recording
layer and other layers of said second recording layers, said first recording
layer, the other layers of said second recording layers, and said each of said
second recording layers arranged in this order as viewed from an irradiation
15 side of the laser light, and

in a facing area, which faces the predetermined area, in the other
layers of said second recording layers and said first recording layer, by
forming embossed pits, light transmittance of the facing area is made closer
to (i) light transmittance under an assumption that (i-1) the embossed pits
20 are not formed and that (i-2) the other layers and said first recording layer
are already recorded, as compared to (ii) light transmittance under an
assumption that (ii-1) the embossed pits are not formed and that (ii-2) the
other layers and said first recording layer are unrecorded.

25 2. The information recording medium according to claim 1, wherein the
light transmittance of the facing area is set to be same as the light

transmittance under the assumption that the embossed pits are not formed and that the other layers and said first recording layer are already recorded, by forming the embossed pits in the facing area.

5 3. The information recording medium according to claim 1, wherein the predetermined area is smaller than the facing area.

4. The information recording medium according to claim 1, wherein encryption information for encrypting or decrypting the record information is
10 recorded by forming the embossed pits, in the facing area.

5. The information recording medium according to claim 1, wherein control information for controlling at least one of a recording operation and a reproduction operation of the record information is recorded by forming the
15 embossed pits, in the facing area.

6. The information recording medium according to claim 1, wherein
 at least one of said first recording layer and each of said second recording layers further has a management information recording area to
20 record therein management information, and
 identification information for identifying whether or not the embossed pits are formed in the facing area, is recorded in the management information recording area, as the management information.

25 7. The information recording medium according to claim 1, wherein each of the other layers and said first recording layer have a first predetermined

area in which the power calibration is performed for the other layers and said first recording layer, in an area different from the facing area.

8. The information recording medium according to claim 1, wherein each
5 of said second recording layers has a second predetermined area in which the power calibration is performed for each of said second recording layers, in an area which is different from the predetermined area and which does not face the facing area.

10 9. The information recording medium according to claim 1, wherein at least one of said first recording layer and each of said second recording layers further has a management area to record therein a value of the detected optimum recording power.

15 10. An information recording apparatus for recording the record information onto said information recording medium according to claim 1, said information recording apparatus comprising:

a writing device for writing test-writing information which is at least another portion of the record information into said first recording layer by
20 irradiating the laser light for recording so as to focus on said first recording layer, and for writing the test-writing information into each of said second recording layers by irradiating the laser light for recording so as to focus on each of said second recording layers; and

a test-writing control device for controlling said writing device (I) to
25 test-write the test-writing information for the power calibration of the laser light for recording with respect to each of said second recording layers, in the

predetermined area through the facing area and (II) to test-write the test-writing information for the power calibration of the laser light for recording with respect to the other layers and said first recording layer, in a first predetermined area provided in an area different from the facing area.

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11. An information recording method in an information recording apparatus comprising a writing device for writing test-writing information which is at least another portion of the record information, in order to record the record information onto said information recording medium according to

10 claim 1,

said information recording method comprising:

a test-writing control process of controlling said writing device (I) to test-write the test-writing information for the power calibration of the laser light for recording with respect to each of said second recording layers, in the
15 predetermined area through the facing area and (II) to test-write the test-writing information for the power calibration of the laser light for recording with respect to the other layers and said first recording layer, in a first predetermined area provided in an area different from the facing area.